



KRIS NELSON COMMUNITY-BASED RESEARCH PROGRAM

...a program of the Center for Urban and Regional Affairs (CURA)

GrowRx 2018 Season Report and Annotated Bibliography

Prepared in partnership with
The Urban Farm and Garden Alliance and Open Cities Health Center

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Spring 2019

KNCBR Report # 1445

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PART I: GROW RX 2018 SEASON REPORT

Introduction

This report analyzes data collected during the 2018 season of GrowRx, a gardening prescription program coordinated by the Urban Farm and Garden Alliance (UFGA) of Saint Paul in partnership with Open Cities Health Center. Participants in the program received a “gardening prescription” from a provider at Open Cities, which was then “filled” by UFGA who provided participants with either a plot in a community garden or a garden box for their home, as well as soil, plants, seeds, tools, and help installing the garden. Several participants were recruited by UFGA coordinators rather than through Open Cities. Participants and coordinators came together for a Season Kick-Off Event as well as a Fall Celebration event.

Methods

Data Collection:

Data collection consisted of pre-and post-surveys of participants as well as an informal focus group at the Fall Celebration event which included some community members who were not GrowRx participants.

Data Analysis:

Quantitative survey data was represented graphically (see Figures 1-4). Because of the small size and irregularity of the data set, more rigorous statistical analysis was not appropriate.

Content analysis was performed on qualitative survey and focus group data. First, repeated key words and concepts were tagged. These tags were then coded, grouped into categories, and organized into emergent themes. Several people who did not participate in GrowRx attended the Fall Celebration and participated in the focus group—their qualitative data is analyzed separately from that of GrowRx participants.

Participant information

Eight people participated in the GrowRx 2018 season, five of whom were referred by providers at Open Cities, and 3 of whom were referred by a community member or other connection.

Five participants provided demographic information. Of these five, one identified as Hispanic/Latina/o/x, one identified as Black/African American, two identified as White/European Descent, and one identified as Hispanic/Latina/o/x, Black/African American and Multi-racial. Three identified as female and two as male. Age at the start of the season ranged from 48-56 (although there were younger and possibly older participants who did not give their ages). Average number of adults in the household was 1.6; four of the five participants had no children under 18; one participant had 3 children under 18. Three zip codes were represented: 55117 (3), 55104 (1), and 55102 (1). All five participants reported having insurance coverage from Blue Cross Blue Shield (1), Health Partners (2), or UCare/Medical Assistance (2). Three out of five reported having had their

own garden or community plot at some point prior to the program. Three out of five reported having grown food at some point prior to the program.

Quantitative Survey Data

Participants were asked to complete a pre-survey before the season and a post-survey at the end of the season. Four participants completed both surveys, one participant completed only the pre-survey, and three participants completed only the post-survey. (Two people completed the pre-survey but did not participate in the GrowRx program; their responses have been omitted). The following section presents key findings from the quantitative survey questions.

Figure 1 presents responses to the multiple-choice question, “How would you like to see your health improve?” Participants were asked to check all the options that applied to them. This question appeared on the pre-survey only.

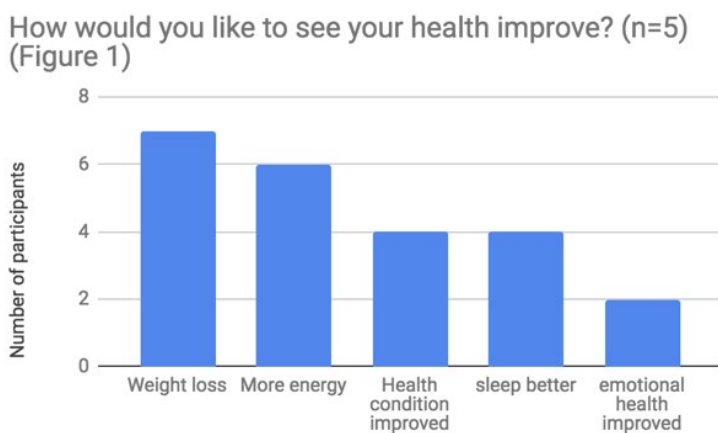


Figure 2 presents responses to the multiple-choice question “How do you feel when you are working in a garden?” Participants were asked to check all the options that applied to them. This question appeared on both the pre-and post-surveys.

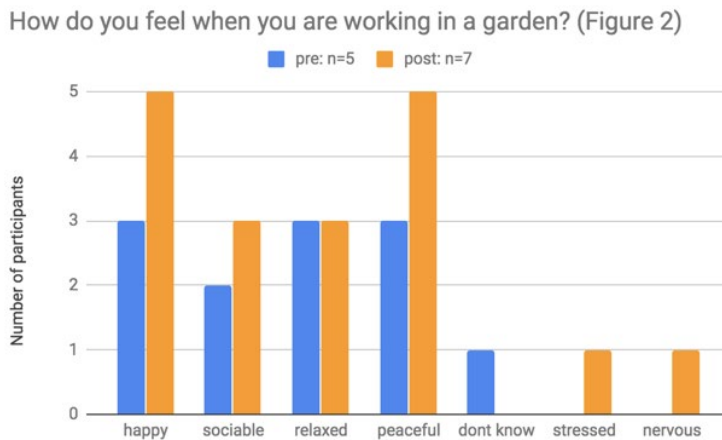


Figure 3 presents responses to the multiple-choice question “How much time did you spend working in the garden, per week?” This question appeared on the post-survey only.

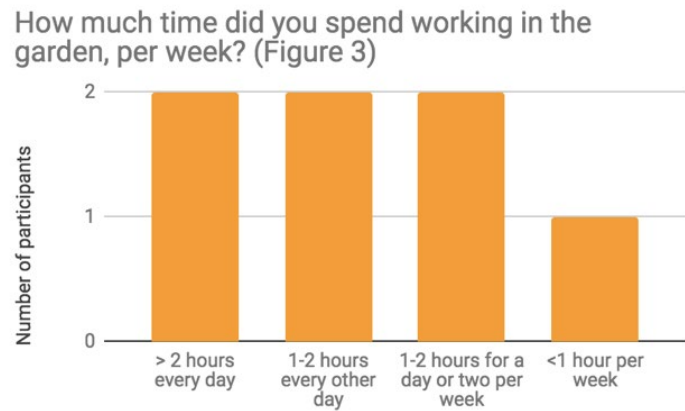


Figure 4 presents responses to the multiple-choice question, “How often do you (or someone in your household) make food with fresh vegetables or fruits?” This question appeared on both the pre-and post-surveys.

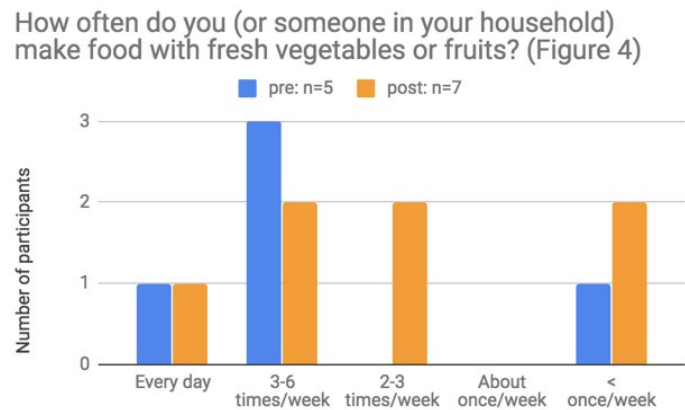


Table 1 presents responses to two questions about food security. These questions appeared on both the pre- and post-surveys.

| Table 1 | Within the past 12 months, did you <i>worry</i> that your food would run out before you got money to buy more? | | Within the past 12 months, did you run out of food and not have money to buy more? | |
|---------|--|---------------|--|---------------|
| | Pre | Post | Pre | Post |
| 1 | yes | no | yes | no |
| 2 | yes | (no response) | yes | (no response) |
| 3 | yes | no | no | no |

| | | | | |
|---|---------------|-----|---------------|-----|
| 4 | yes | yes | no | no |
| 5 | yes | yes | yes | yes |
| 6 | (no response) | No | (no response) | no |
| 7 | (no response) | Yes | (no response) | yes |
| 8 | (no response) | No | (no response) | no |

Qualitative Data

Several GrowRx participants took part in a focus group at the Fall Celebration. Data from this focus group was tagged, coded, and organized into themes. Several people who did not participate in GrowRx attended the celebration; analysis of their comments is separated from analysis of GrowRx participants' comments.

GrowRx Participants

Five major themes emerged from the qualitative data: Social connection, Positive experience with gardening, Food and eating, Appreciation for the program, and Concerns/suggestions/desires. Several of these larger themes contained sub-themes.

Social connection: Participants expressed enjoyment and the desire to connect with other gardeners, both in person and online via a Facebook page or other shared online resource. Participants also provided encouragement to one another and shared skills. One person remarked, "I love being with other fresh-food lovers!"

Positive experience of gardening: Participants valued the experience and process of gardening itself, separate from the production of produce. One participant remarked that their garden "motivated me to go out and see what's going on... also to admire my artichokes." Another said, "It helped me relax."

A sub-theme among participants was enjoying the experience of simply watching their plants grow-- comments included "Best experience is watching the plants grow;" and "I love watching them grow. I love talking to the little things, telling them: I'm going to eat you soon! I love even fighting with the bugs."

Food and eating: Several participants expressed enjoyment of organic produce in general and the belief that it is healthy for you. Multiple people indicated that they enjoyed eating the produce they grew. One participant said they ate several cherry tomatoes every day. Another participant recounted this experience: "One day I

didn't have anything to eat and I thought, hey--I have a garden out here! And I grabbed a cuke and a tomato and some spices and greens and made a salad.”

Appreciation for the program: Participants expressed appreciation for the GrowRx program. For example: “I wouldn’t have been able to do it without UFGA;” “I learned a lot--thank you;” and “I appreciated them helping put in the dirt.”

Concerns/suggestions/desires: Participants expressed concerns, suggestions, and desires for the future. These fell into two categories:

Desire for gardening knowledge and assistance:

- Information about matching the growing season to plant maturation (one person mentioned having many green tomatoes at the end of the season);
- Wanting to grow vegetables year round;
- Seedlings provided in biodegradable pots (or provide these pots to start seeds in)
- More plants, including native and prairie plants.

Desire for social connection/Information sharing:

- A sheet of resources (presumably about gardening tips) or a webpage with similar information
- A shared page such as a Facebook page where people could connect online.

Non-GrowRx participants

There were several people present at the end-of-season event who did not participate in GrowRx. Their comments are grouped separately. Most of the same themes emerged, but were expressed slightly differently by this group.

Positive experience of gardening: People expressed satisfaction with growing their own food, getting outside, and knowing what they grew did not contain chemicals or other undesirable additives: “Good excuse to get outside;” “I like having control over chemicals and get the satisfaction of growing my own food.”

Food and eating: People enjoyed eating food they grew themselves, and indicated an interest in the health benefits of homegrown produce: “I actually look forward to eating fresh food;” “Thank you for this encouragement for us to eat better--I’m happy to be here to learn about foods that are healthy.”

Appreciation for the program: Several people voiced their appreciation for GrowRx, even though their only experience with the program was the end of season event: “Thank you for this encouragement for us to eat better;” “Thank you. I need this program.”

Concerns/suggestions/desires:

- Concern about growing in shade
- Concern about having enough space
- How to combat squirrels and rabbits.

- Nutrition information
- “What grains are better?”
- Desire for a “cheat-sheet so you can know which one [kind of food] is best for you.”

Conclusion

While the small number of participants and the incomplete data make it difficult to draw any firm or generalizable conclusions from this season, preliminary data analysis suggests that participants experienced benefits ranging from increased food availability to increased motivation to leave the house and get outside. The concerns, desires and suggestions provide a jumping off point to continue to improve participants' experience with GrowRx.

PART II: ANNOTATED BIBLIOGRAPHY

Introduction and Methods

The purpose of this annotated bibliography is to assemble articles and resources on several topics that may be useful to GrowRx and UFGA as they work to strengthen their programming and evaluation. Topics covered include **social prescribing, garden prescription programs, evaluating community-based programs, and produce prescription programs**. I conducted my research primarily through internet-based searches on Google Scholar (for academic articles) and Google (for program websites and other resources). A list of search terms and additional methods is included at the beginning of each section.

Social Prescribing

This section includes articles reviewing the social prescribing literature from the US and the UK as well as a review of social prescribing and social connectedness (abstract only).

Search Terms

Social Prescribing U.S. /United States

Social Prescription U.S. /United States

Community-initiated social prescribing U.S.

Community-based social prescribing U.S.

Peschery, J.V., Pappas, Y., and Randhawa, G. (2018). Facilitators and barriers of implementing and delivering social prescribing services: a systematic review. *BMC Health Services Research*, 18(86). DOI: <https://doi.org/10.1186/s12913-018-2893-4>

This article reviews the literature on social prescribing programs in the UK to identify **factors that facilitate and hinder the implementation and delivery of social prescribing (SP) services**. The authors included studies of programs in which general practitioners refer patients to a navigator, who then connects patients to non-medical/community resources depending on their needs. Although the healthcare context in the UK is significantly different from that of the US, and the programs reviewed here larger-scale than GrowRx, some of the findings of this review may be useful in strengthening the partnership between UFGA and Open Cities.

Facilitating factors:

- *Implementation approach:* phased implementation was more successful than implementing everything at once.
- *Organization and management:* Adequately training practitioners and navigators about operations, implementation and delivery of services was important.

- *Shared understanding and attitudes:* Shared understanding and attitudes between all participants was important in managing expectations--particularly among patients--and preventing tension and disappointment regarding delivery of services and results.
- *Relationships and communication:* Regular and structured contact between prescribers, navigators and patients was important to ensure good communication flow and information sharing.
- *Organizational readiness:* The prescribing clinic must be ready to logistically support the social prescribing program, and be committed to holistic and psychosocial approaches to health.

Barriers:

- *Leadership and organization:* A collaborative, multi-sector approach to project management and coordination--rather than a more targeted approach--resulted in less effective implementation.
- *Economic climate and funding:* High employee mobility along with limited resources to support community partner relationships was a barrier to success.
- *Shared understanding:* Lack of a shared understanding about the process between all involved can lead to a lack of trust, and confusing explanations to patients and/or inappropriate referrals.
- *General practice staff engagement:* Lack of buy-in from clinic staff can hinder SP program effectiveness.
- *Staff turnover:* High rates of staff turnover can interrupt relationships and institutional knowledge that helps programs work.
- *Patient engagement:* Low levels of patient interest, trust, and willingness to participate in the program can hinder effectiveness.
- *Infrastructure:* Services that patients are prescribed could be lost due to lack of funding or other challenges, resulting in patients' needs not being met.

Alderwick, H., Gottlieb, L., Fichtenberg, C., & Alter, N. (2018). Social Prescribing in the U.S. and England: Emerging interventions to address patients' social needs. *American Journal of Preventive Medicine*, 54(5), 715-718. DOI: <https://doi.org/10.1016/j.amepre.2018.01.039>

This article is a review of the literature and general state of social prescribing to date in the U.S. and England. The authors make several points:

- There is a lack of high-quality evidence on the effectiveness of social prescribing programs even as they are expanding in both countries. Both reviews noted the poor-quality studies and small sample size characterizing most of the research on SP. "Knowledge of what works, when, and for which population groups, is limited."

- The multiple steps and actors, and long timeframe to see results, of SP mean that **“Breakdown at any step in this process can mean that social needs are not improved and potential health benefits cannot be realized.”** Data needs to be collected about the entire process so people can know what works, where, for whom.
- Social prescribing can only work when there are resources in the community to meet patients’ needs--a challenge in the U.S. where this kind of spending is low. **When a social prescription fails to deliver on its promise, this can cause distrust or stress among patients.**

Martino, J., Pegg, J., Frates, E.P.. (2015). The Connection Prescription: Using the Power of Social Interactions and the Deep Desire for Connectedness to Empower Health and Wellness. *American Journal of Lifestyle Medicine*, 11(6), pp. 466-475. DOI: <https://doi.org/10.1177/1559827615608788>

A review of the literature on the benefits of social support and feelings of connectedness for various aspects of health. (Abstract only--I could not gain access to the full text, but included the citation in case someone else is able to.)

Garden Rx Programs

This section includes articles and websites for programs in the U.S. that partner with healthcare providers to prescribe gardening (rather than just prescribing produce, which is far more common). Contact information is included where available.

Search terms:

Garden prescription programs U.S.

Prescribing gardening

Social prescribing gardening

Community based garden prescription

Green prescription

Stefani, M.C., Humphries, D., & Kline, R. (2014). Investigation of an urban farm intervention for a low income Hispanic population with multiple risk factors for diabetes. *The FASEB Journal*, 28(1-Supp). Article retrieved at: https://www.fasebj.org/doi/abs/10.1096/fasebj.28.1_supplement.624.3 (Abstract only).

Poster retrieved at: http://www.newhavenfarms.org/wp-content/uploads/2014/05/ASN-2014-poster-draft-4_21-FINAL_smaller.pdf

New Haven Farms

Farm-Based Wellness Program

This article and poster describe the Farm-Based Wellness Program run by New Haven Farms in New Haven, CT.

- Patients with diet-related chronic disease risk factors are referred to the program from three federally qualified health centers that serve medically-underserved populations.
- Patients and their families come to weekly 2-hour sessions at the farm (bi-lingual cooking demos, nutrition classes, gardening lessons) and take home produce grown by the farm along with culturally relevant recipes (enough to feed a family of 5 for a week).
- The program focuses on physical health with the goal of "reduc[ing] nutrition-related risk of diabetes."
- Funding: Medical foundation, Connecticut Department of Ag, other in-kind donations from local businesses.
- Program was initiated by the community.

Research Question: How does a multi-level urban farm intervention in a low-income, primarily Hispanic community impact food security, produce intake, and diabetes risk factors among participants?

Metrics: Food security: USDA HFSSM; Dietary intake: NHANES DSQ; Anthropometry pre/post intervention; weekly survey of last week's food basket use.

Findings: Food security decreased; produce intake increased; anthropometry findings and food basket use not reported on the poster.

Additional information about this program

Program website: <https://www.newhavenfarms.org/our-programs/farm-based-wellness-program> (During the course of this research I began to experience problems accessing the website--hopefully this will resolve.)

Facebook page: https://www.facebook.com/pg/NHFFarms/posts/?ref=page_internal

NY times article 2014: <https://www.nytimes.com/2014/11/07/giving/what-the-doctor-ordered-urban-farming-.html>

Incubator Garden Program

After completing the Farm-Based Wellness Program, participants may enter the incubator program to plant their own garden. This program is in partnership with the New Haven Land Trust as well as New Haven Farms.

Program website: <https://www.newhavenfarms.org/our-programs/incubator-garden-program> (Currently experiencing problems accessing the website)

Program website for New Haven Land Trust: <http://www.newhavenlandtrust.org/incubatorgarden>

Contact: Esther at esther.rose-wilen@newhavenlandtrust.org

University of Central Florida

Gardening Prescription Program

<https://today.ucf.edu/stressed-anxious-gardening-might-just-doctor-ordered/>

Students who visit the health center at the University of Central Florida can be written a prescription to volunteer at the community garden in the campus arboretum to relieve stress and anxiety.

GRuB (Olympia, WA)

Garden Rx Pilot

Organization website: <https://www.goodgrub.org/community-programs>

Article describing the program: <http://www.thurstontalk.com/2017/05/16/grub-olympia-2/>

Job description for evaluating the program: <http://blogs.evergreen.edu/mesweekly/2018/01/25/job-evaluation-consultation-request-for-project-proposals-grub-olympia-wa/>

Contact:

GRuB office: (360) 753-5522

Amory Ballantine, Grants & Evaluation Manager: Amory@goodgrub.org 360-753-5522 x218

A description for this program is not available on GRuB's website and it seems to be in a pilot phase. However, a description was found in a local news article listed above:

"Twenty-four obese children and their families will have gardens built at their homes. They will receive monthly on-site visits to troubleshoot any plant/garden issues and also to receive health information. Twice monthly the families will gather at the GRuB farm location for group activities around peer support and various skill- building. Families will cook a meal and eat together. This program is unfolding with the help of Providence St. Peter Hospital, Capital Medical Center, Olympia Pediatrics and numerous health-care professionals." (Thurstontalk article).

Evaluating Community-Based Programs

This section includes studies describing participatory and participant-driven methods of evaluating community-based programs, with a focus on programs related to food, gardening, and health. Methods covered include **Photovoice, Peer Interviews, Ripple Effects Mapping, and Community Based Participatory Research**. I attempted to include articles describing evaluation methods that could be adapted to the scale and purpose of GrowRx. However, it was a challenge to seek out articles that provided a precedent for evaluating small, community-driven initiatives for the sake of the organization's own learning, because these would likely not be published in peer-reviewed journals or available online.

Search terms:

Evaluating community-based programs gardening
Photovoice as evaluation
Photovoice participatory evaluation health
Photovoice participatory evaluation gardening
Ripple effects mapping garden
Ripple effects mapping community program
Participatory evaluation gardening
Community-based participatory evaluation garden
Small-scale evaluation community programs
Social-ecological model community-based programs

Carman, J.C. (2007). Evaluation Practice Among Community-Based Organizations: Research Into the Reality. *American Journal of Evaluation*, 28(1). DOI: <https://doi.org/10.1177/1098214006296245> (abstract only).

This article describes the results of a survey of community-based organizations about their evaluation practices. (Abstract only. Unfortunately I could not find the full-text version but it seems like it could be informative.)

Kelly Jr., T. (2010). Five simple rules for evaluating complex community initiatives. *Community Investments*, 22(1). Annie E. Casey Foundation. Retrieved from: https://www.frbsf.org/community-development/files/T_Kelly.pdf

This article describes five rules for evaluating complex community initiatives that the author has developed over their career as an evaluator. While they are specifically talking about large-scale Community Change Initiatives (CCIs), these lessons can inform how GrowRx and UFGA undertake evaluation as well. The article states that evaluations of CCIs should:

- **Be seen as part of the community change process:** Because communities are so complex, it is impossible to control for all factors, design an experimental environment, and definitively determine cause and effect relationships between the intervention and the outcome. Data collecting itself becomes an intervention that has effects and is part of the change process.
- **Focus on the process:** Rather than simply looking for cause and effect, evaluations should “illuminate the interactions across multiple pathways over time” including the process, implementation, interactions, and multiple effects, and provide real-time information and feedback to the community to inform ongoing decisions.

- **Measure ongoing progress towards achieving outcomes and results:** While process should be the focus, measuring outcomes and progress towards goals is also essential, and provides a reinforcement of and justification for the process so it can continue. Evaluation should be “an instrument of learning and accountability.”
- **Understand, document, and explain the multiple theories of change at work over time:** “Evaluations in these initiatives need to document and explain which relevant forces, strategies, and interactions are important to pay attention to at different stages of change. This will help inform future decisions and implementation strategies that increase the likelihood of positive impact.”
- **Prioritize real-time learning and community access to and capacity to use and learn from evaluation data:** Evaluation practices should be built into communities and community organizations.

PHOTOVOICE:

Boston, Q.P., Lopez, I.A., & Harper, K. (2015). Diversity Grown: Participatory Evaluation of a Community Gardening Initiative through Photovoice. *Practicing Anthropology*, 37(4), 38-43. DOI: <https://sfaajournals.net/doi/pdf/10.17730/0888-4552-37.4.38>

This article describes a photovoice evaluation of Dunn Street Youth Farm iGrowFood and Art Festival in Tallahassee, FL. Photovoice was used with youth garden program participants at festival to:

- “gain insight about participants’ understanding of sustainable food systems after having participated in the festival”
- “document concerns and perspectives”
- “illuminate participant’s impressions of leadership and fellowship”, and
- “gain insight about cultural influences of food.”

Kramer, L., Schwartz, P., Cheadle, A., & Rauzon, S. (2012) Using Photovoice as a Participatory Evaluation Tool in Kaiser Permanente’s Community Health Initiative. *Health Promotion Practice*, 14(5), 686-694. DOI: <https://journals.sagepub.com/doi/10.1177/1524839912463232>

Photovoice was employed as part of a larger evaluation of a Community Health Initiative to prevent obesity. To the authors’ knowledge it is the first instance of using Photovoice as a **pre-post evaluation measure** to be documented in the literature. The article describes the process of implementing Photovoice. “The Photovoice results can be used to **confirm and expand on the findings from the more traditional parts**

of the evaluation, highlighting the policy and environmental changes of particular importance to the communities themselves.” (emphasis added)

Lessons learned:

- Budget sufficient resources for Photovoice, especially if doing a baseline and follow-up.
- Develop a comprehensive training curriculum for participants to ensure consistency (most important when repeating multiple groups or across multiple locations).
- Use specific training curriculum for youth participants that is developmentally appropriate.
- Ensure that all participants have adequate language support for caption writing so that they can effectively communicate thoughts that will be clear to outside observers.

Sands, C., Harper, K., Reed, L.E., & Shar, M. (2009). A Photovoice Participatory Evaluation of a School Gardening Program Through the Eyes of Fifth Graders. *Practicing Anthropology*, 31(4), 15-20. Retrieved from: https://scholarworks.umass.edu/anthro_faculty_pubs/340/

This article describes implementation of a Photovoice project in a classroom setting with 5th graders to evaluate a school garden/Farm-to-School program. The purpose of the Photovoice evaluation was “To gain insight about students’ knowledge of food, nutrition, and community food systems...[and] to illuminate students’ impressions of leadership, fellowship, care for the land and community” resulting from participating in the Farm-to-School Program.

Central question: “Do the garden programs increase understanding of food pathways and health?”

Takeaway for GrowRx: At the beginning, students had a negative connotation of the term “research” but responded better to the terms “photojournalism” or “storytelling.”

Budig, K., Diez, J., Conde, P., Sastre, M., Hernán, M., & Franco, M. (2018). Photovoice and Empowerment: Evaluating the Transformative Potential of a Participatory Action Research Project. *BMC Public Health*, 18(432), DOI: <https://doi.org/10.1186/s12889-018-5335-7>

This study examines the experience of individual empowerment of women who had participated in a Photovoice project to describe their food environment in the low-income Villaverde District of Madrid, Spain. Through semi-structured interviews, the study found that participants **gained new knowledge, improved their self-perception, and expanded their social networks** through engaging in the Photovoice process.

PEER INTERVIEWS:

Lyle, J., & Richards, L. (2018). Youth as Interviewers: Methods and Findings of Participatory Peer Interviews in a Youth Garden Project. *Journal of Adolescent Research*, 33(4). DOI: <https://doi.org/10.1177/0743558416670009>

This article describes the use of youth peer-interviews as part of a mixed-methods Community Based Participatory Research project on a low-income youth garden project in Oregon called “Producing for the Future.”

Goals of article: 1) to present peer interview methodology, 2) to describe the results of the peer-interview project.

The peer interview process included:

1. **“Youth participation in crafting, refining, and editing research/evaluation and interview questions.”** Youth in two separate garden projects in two different towns brainstormed questions that they would like to ask members of the other garden project. All questions were recorded for each of the two project groups and received IRB approval from the research university.
2. **“Facilitation of a workshop or discussion on interviewing techniques”** with youth participants before the interviews were conducted.
3. **“Pairing of participants into dyads for conducting interviews [one youth from each garden project], with balance of power maintained (youth with youth, volunteers with volunteers, etc.)”** Youth from the two projects met up, each was given a question sheet and a voice recorder, and they paired up and interviewed each other using the predetermined scripts.
4. **“Immediate debriefing and discussion led by an experienced facilitator, focused on the findings of the interviews and further exploration of emerging themes.”** Immediately following the interviews, both groups of youth had a facilitated full-group discussion debrief about what they heard in their interviews. The themes that emerged from this discussion formed the basis for coding of the interviews.
5. **Content analysis and process analysis** were conducted on interview transcriptions.

Takeaways:

- The process built capacity, empowerment, and social capital among youth participants
- Youth already knew each other very well and were familiar with the idea of research which may have contributed to the high level of engagement with the activity. This may limit the generalizable success of this method, but indicates it could be a good method for programs with similar characteristics.
- Peer interviews were used as **part** of a mixed-methods research approach, **not as a method alone**.

RIPPLE EFFECTS MAPPING

Washburn, L. T., Traywick, L., Thornton, L., Vincent, J., & Brown, T. (2018). Using Ripple Effects Mapping to Evaluate a Community-Based Health Program: Perspectives of Program Implementers. *Health Promotion Practice*. DOI: <https://doi.org/10.1177/1524839918804506>

Goal of study: “REM [ripple effects mapping] was used in the Extension Wellness Ambassador Program (EWAP) to explore the outcomes of the EWAP pilot from perspectives of program implementers (health educators).” EWAP is a health-focused extension service of master volunteers who develop and implement health-related programming in communities.

Ripple Effect Mapping (REM): “Four core elements of the REM method are (1) appreciative inquiry, (2) a participatory approach, (3) interactive group interviewing and reflection, and (4) mind-mapping.” Sessions are usually 1-2 hours with 12-20 participants.

Methods:

- Evaluators developed a semi-structured focus group guide for the REM session using the logic model of the program.
- Focus group responses were mapped on paper and later input into ripple mapping software
- Data from map was coded using open coding by the evaluation team
- Data from map and additional information from coding was combined in Mindjet MindManager to form a digitized ripple map

Results: The ripple effects map identified program outcomes beyond what the original program theory and logic model anticipated, by involving program implementers in the evaluation.

COMMUNITY-BASED PARTICIPATORY RESEARCH

Carney, P.A., Hamada, J.L., Rdesinski, R., Sprager, L., Nichols, Liu, B.Y., Pelayo, J., Sanchez, M.A., & Shannon, J. (2013). Impact of a Community Gardening Project on Vegetable Intake, Food Security and Family Relationships: A Community-based Participatory Research Study. *Journal of Community Health*, 37(4), 874–881. DOI: [10.1007/s10900-011-9522-z](https://doi.org/10.1007/s10900-011-9522-z)

Purpose of the study: “To describe the impact of a community gardening project on vegetable intake, food security and family relationships.”

Program Description: This program/study was a partnership between a rural migrant farm worker community, community health workers, and a large research university.

Program Goals

1. “To pilot a peer network supporting the establishment of home gardens (growing healthful produce) among Hispanic families;
2. To analyze the vegetable intake among participants before and after their garden is implemented; and
3. To build community self-sufficiency through neighborhood and household gardening, in ways that honor and utilize traditional skills and Hispanic culture.”

Evaluation Methods:

Pre-and Post-surveys, key informant interviews, observations at community garden meetings.

Surprise outcome: The positive impact of the gardening program on family relationships.

Brown, B., Dybdal, L., Noonan, C., Pedersen, M.G., Parker, M., and Corcoran, M. (2019). Group gardening in a Native American Community: A Collaborative Approach. *Health Promotion Practice*. DOI: <https://doi.org/10.1177/1524839919830930>

This article describes a community-based participatory research program within a social-ecological model to understand opportunities and barriers for group gardening on an American Indian reservation.

Objective 1: Identify influences across social-ecological levels that promote or hinder the implementation of community gardens and use of locally grown foods on the reservation.

Method 1: Key stakeholder interviews.

Results 1: Influences included knowledge and experience of gardening, self-efficacy, Elders, traditional ways, community values, generational gaps, and local tribal policies.

Objective 2: Assess the feasibility of implementing a group gardening program for Native American adults and potential of collecting health outcome measures.

Method 2: Conduct a randomized two-group pre-post intervention study in which participants with diabetes or pre-diabetes garden in raised beds alongside other gardeners, and are encouraged to participate in 10 semi-monthly structured food and garden-related educational sessions. Participants were evaluated pre- and post-intervention for hemoglobin A1C (HgbA1C) levels, height, weight, Profile of Mood States (POMS) Inventory, Center for Epidemiological Studies–Depression Scale, World Health Organization Quality of Life Questionnaire, and a Stages of Change scale that assessed an individuals’ motivation to grow and eat fruits and vegetables.

Results 2: Profile of Mood States Inventory showed significant positive results for the gardening group.

ETHNOGRAPHY/STORYTELLING

Miadema, J.M., Desjardins, E., & Marshall, K. (2013). "Not Just a Passing Fancy": How Community Gardens Contribute to Healthy and Inclusive Neighborhoods. *The Community Garden Storytelling Project, Region of Waterloo Public Health*. Retrieved from: http://community-gardens.ca/sites/default/files/website_files/Community%20Gardening%20Storytelling%20Project.pdf (not peer reviewed)

This article describes a community garden storytelling project conducted with Waterloo Area Public Health (Waterloo, Ontario, Canada). 84 gardeners participated in unstructured ethnographic interviews with a short demographic questionnaire at the end of the interview. Nine participants were profiled in the article.

Three broad themes emerged:

- Health (addressing physical and mental stress, saving money on food, enhancing meals and diet)
- Inclusion (community building, preserving culture, the involvement of children)
- Learning (Satisfying curiosity and building skills, Environmental concerns related to food)

Produce Prescription Programs

This section lists a small sample of produce prescription programs, which are very numerous across the country.

Search terms:

Produce prescription Twin Cities
Produce prescription Minneapolis
Produce prescription Midwest

Swartz, H. (2018). Produce Rx Programs for Diet-Based Chronic Disease Prevention." *AMA Journal of Ethics*, 20(10). Retrieved from: <https://journalofethics.ama-assn.org/article/produce-rx-programs-diet-based-chronic-disease-prevention/2018-10>

A review evaluating Wellbeing, Autonomy and Fairness of various stakeholders in Produce Rx programs found in the literature as of 2018. To be included in the review, programs had to include patient interaction with medical professionals in a healthcare setting that resulted in the patient receiving a produce prescription.

Saxe-Custack, A. (2018). Produce prescription program increases access to fresh food. American Society for Nutrition Scientific Sessions and Annual Meeting. Retrieved from: <https://www.healio.com/pediatrics/nutrition/news/online/%7B4c831619-abb8-4c19-8d80-aa4e202aef14%7D/produce-prescription-program-increases-access-to-fresh-food> (I could not find the actual article or presentation--this is a summary).

A pediatrician's office located next to a farmers market gave \$10 fruit and vegetable prescriptions to caregivers of children that could be redeemed at the farmers market. Study found that prescription-holders bought more fruits and veggies than non-prescription holders.

Goddu, A.P., Roberson, T.S., Raffel, K.E., Chin, M.H., Peek, M.E. (2015). Food Rx: A Community-University Partnership to Prescribe Healthy Eating on the South Side of Chicago. *J Prev Interv Community*, 43(2), pp. 148–162. DOI: [10.1080/10852352.2014.973251](https://doi.org/10.1080/10852352.2014.973251)

Partnership between a University, Walgreens, a farmers market, and six health centers on the South Side of Chicago. The goal of the program is to address diabetes. The program was developed by University researchers (not community members). Patients receive coupons for a discount on “healthy food” at Walgreens or a local farmers market.

Joshi K., Smith S., Bolen S.D., Osborne A., Benko M., Trapl E.S. (2019). Implementing a Produce Prescription Program for Hypertensive Patients in Safety Net Clinics.” *Health Promotion Practice* 20(1), pp. 94-104. DOI: [10.1177/1524839917754090](https://doi.org/10.1177/1524839917754090)

This article describes implementation at the clinic level of the program involving 3 safety net clinics and 6 farmers markets (abstract only).

“NBC15 Spotlights Produce Prescription Program at Northeast Clinic.”

<https://www.fammed.wisc.edu/nbc15-spotlights-produce-prescription-program-northeast-clinic/>

This short article describes a fruit and vegetable Rx program, FVRx, which is a partnership between a Madison WI health center, a food co-op, the City of Madison, Public Health Madison and Dane County, Second Harvest Food Bank, and funded through a grant from Wholesome Wave. Up to 150 participants get up to 10 \$2 vouchers per month for six months to use at Willy Street Co-op for fruits and vegetables.

VeggieRx program through Fresh Approach (Palo Alto, CA)

<http://www.freshapproach.org/veggierx-become-a-partner/>

The Fresh Approach nonprofit offers a VeggieRx program that combines nutrition education, cooking, and body health measurements in 8 weekly classes. When funding is available, participants also get \$5-\$10 in produce vouchers.

Description of produce prescription programs in Michigan that are supported by BCBS foundation:

<https://www.mibluesperspectives.com/2018/05/24/food-as-medicine-how-the-bcbsm-foundation-supports-produce-prescription-programs/>

Siouxland Iowa Produce Prescription Program:

<https://insight.livestories.com/s/v2/fruit-and-vegetable-prescription-program/e8721c40-f136-4a06-a37a-9d63e373fc8a/>

<https://healthsiouxland.org/providers/fruit-vegetable-prescription-program/>

<https://upfromtheearth.wixsite.com/siouxland>

This program is a partnership between Up from the Earth--a program where gardeners grow and “extra row” and donate produce to food shelves and clinics--and The Siouxland District Health Department MRC of Woodbury County, Iowa. Patients with diabetes, cardiovascular disease, hypertension, and/or weight issues qualify for a produce prescription which is redeemed at a participating clinic.

Washtenaw County Prescription for Health

<https://www.washtenaw.org/1829/Prescription-for-Health>

Patients with chronic disease risk and food access difficulty are referred by a clinician to the program. Patients attend a group education session and are given a prescription worth \$100. Prescriptions are redeemed for tokens at the farmers market that can be used to purchase fruits and vegetables. The program is funded through a health system.

Shape Up North

<https://shapeupnorth.com/729-2/>

A program in Traverse County, MI Modelled after the Washtenaw program.

Detroit Fresh Prescription program

<https://www.ecocenter.org/fresh-prescription>

A program in Detroit modelled after the Washtenaw program. Health providers partner with farmers markets and farm stands, also includes nutrition education and demonstrations

Fruit and Veggie Rx through Health Partners (Twin Cities MN, WI)

<https://www.healthpartners.com/hp/healthy-living/healthy-living-blog/kids-get-prescriptions-for-fruits-and-veggies.html>

A program offered every summer by all Health Partners clinics. Kids receive a prescription that consists of a vouchers to use in participating grocery stores (Cub Foods is the participating grocer in the Twin Cities area).

FOOD Rx

<https://www.2harvest.org/who--how-we-help/services-and-programs/programs/food-rx/>

FOOD Rx is a program through Second Harvest Heartland, who partners with medical providers including:

- Hennepin Healthcare
- Lakewood Health System
- North Memorial Health Care
- Mayo Clinic-Mankato
- UCare

The article lacks a clear description of the program.